

STUDIES OF NEW AND NOTEWORTHY TROPICAL AMERICAN PLANTS-- III

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AVIGENNIA TONDUZII Moldenke, sp. nov.

Arbor; ramulis sarmentisque gracilibus articulatis dense brevissimeque adpresso-tomentellis, pilis cinereis vel sordidis; petiolis gracilibus 0.8--2 cm. longis dense brevissimeque adpresso-tomentellis; laminis coriaceis elongato-oblongis, 9--17 cm. longis, 1.7--2.8 cm. latis, ad apicem obtusis, integris, ad basin longe attenuatis vel acuminatis et in petiolum prolongatis, supra dense minuteque pulverulentis et impresso-punctulatis glabrescentibus, subtus dense brevissimeque adpresso-tomentellis, pilis cinereis vel sordidis; inflorescentiis paniculatis axillaribus terminalibusque 3--6 cm. longis et latis multifloris brachiatis.

Tree; branchlets and twigs slender, jointed, densely matted-tomentellous with gray or cinereous-sordid hairs, swollen and annulate at the nodes; leaves decussate-opposite; petioles slender, 0.8--2 cm. long, densely matted-tomentellous like the twigs, wrinkled-striate in drying; blades coriaceous, elongate-oblong, 9--17 cm. long, 1.7--2.8 cm. wide, obtuse or blunt at apex, entire, long-attenuate or acuminate at base and prolonged into the petiole, densely and very minutely pulverulent and impressed-punctate above, becoming glabrescent in age, densely matted-tomentellous beneath with cinereous or sordid hairs like the twigs; inflorescence cymose, paniculate, axillary and terminal, 3--6 cm. long and wide, usually regularly several-branched from the very base, the branches many-flowered; peduncles, axis, and branches of the inflorescence densely matted-tomentellous and wrinkled-striate in drying like the petioles; bractlets ovate, a pair subtending each pair of inflorescence-branches; flowers sessile; prophylla 3, ovate, about 2 mm. long and 1.5 mm. wide, strigose at the center on the back, villous-tomentose toward the margins, rounded or obtuse at apex, simulating sepals and closely appressed to them, imbricate; sepals 5, separate, imbricate, broadly elliptic or subrotund, about 2.5 mm. long and wide, rounded at apex and base, densely villous-tomentose on the back; corolla hypocrateriform, its tube broadly cylindrical, short, straight, about 1 mm. long, glabrous on both surfaces, its limb 4-parted, the lobes equal, wide-spreading in anthesis, narrowly elliptic-lingulate, about 3 mm. long and 1.5 mm. wide, rounded at apex, densely tomentose on both surfaces; stamens 4, inserted about 0.5 mm. above the base of the corolla-tube, equal, exserted; filaments slender, about 1.5 mm. long, glabrous; anthers oblong,

about 0.75 mm. long and 0.375 mm. wide, 2-celled, not appendaged, opening by longitudinal slits; pistil 1, compound, 2-carpellary; ovary ovate-subglobose, about 1.25 mm. long and wide, densely appressed-villous with antrorse hairs, not lobed, incompletely 4-celled; style terminal, comparatively stout, about 0.75 mm. long, densely appressed-villous; stigma bifid, its branches about 0.25 mm. long, unequal; ovules borne on a basal 4-winged placenta, pendent.

The type of this species was collected by Adolfe Tonduz (No. 6776) in the littoral zone bordering the Pacific Ocean at Punta Mala, Costa Rica, in March, 1892, and is deposited in the herbarium of the Jardin Botanique de l'Etat at Brussels. A complete discussion of this species, citation of specimens, and comments on its relationships will be found in my forthcoming monograph of the genus.

AMBRINA AMBROSIODES var. ANTHELMINTICUM (L.) Moldenke, comb. nov. Chenopodium anthelminticum L. Sp. Pl., ed. 1, 220. 1753.

BALSAMITA MAJOR var. TANACETOIDES (Boiss.) Moldenke, comb. nov. Pyrethrum Balsamita tanacetoides Boiss. Fl. Orient. 3: 346. 1875.

CISSAMPELOS FASCICULATA Benth.

Additional specimens representing this species are Tessmann 3183 from Middle Ucayali, Peru, and 5067 from Iquitos, Loreto, Peru, and Krukoff 7274, collected on campinarana on the plateau between Rio Livramento and Rio Ipixuna, Municipality Humayta, in the basin of the Rio Madeira, Amazonas, Brazil, between November 7 and 18, 1934.

DISCIOPHANIA KILLIPII Diels.

This species has been hitherto known only from the type collection, Killip & Smith 27,041, collected at Iquitos, Loreto, Peru, in August, 1929. Recent work on this and related groups of Menispermaceae by Mr. B. A. Krukoff and myself has brought to light another collection, Krukoff 8249, collected on high land, terra firma, near Palmares, Municipality of São Paulo de Olivença, Amazonas, Brazil, between September 11 and October 26, 1936, described as a vine. This constitutes a notable range extension for the species.

HYPERBAENA DOMINGENSIS (P. DC.) Benth.

According to Diels in Engler, Pflanzenreich 49†: 200-201 (1910), this is a very widely distributed species, ranging from Cuba to southernmost Brazil. The type was collected by Poiteau in Hiti. It seems rather doubtful to me whether all of the material commonly regarded as representing this

species, or even all of the material cited by Diels, is actually conspecific. If it is, then the species is certainly extremely polymorphic in its floral characters. Blanchet 2346 and Spruce 3167 (both cited by Diels) have been carefully dissected. In spite of the much more filiform-elongate inflorescences of the latter (which doubtless caused Miers to propose for it the name H. graciliflora Miers, of which it is the type collection), the staminate flowers are practically identical. The sepals are conspicuously dark-spotted toward the center and base, translucent at the margins, the outer ones lanceolate, about 0.75 mm. long and 0.5 mm. wide, sparsely villous toward the center and base on the back, the inner ones obovate, about 1 mm. long and 0.75 mm. wide, glabrous. The petals are obovate, not at all rhomboid, about 0.6 mm. long and 0.3 mm. wide, glabrous. The stamens are 0.5--0.75 mm. long, separate to the base, spreading, the anthers large and conspicuously projecting. Blanchet 1536, identified as this species by both Eichler and Diels, but not cited by Diels, has only pistillate flowers. These differ in having the sepals minutely punctulate, but not at all dark-spotted, membranous, slightly more incrassate toward the center and base, the outer ones ovate, 1.4--1.6 mm. long, about 1.2 mm. wide, blunt or subacute at apex, rounded-truncate at base, the inner ones obovate-elliptic, about 1.5 mm. long and 1.3 mm. wide, rounded at both apex and base, concave within, and the petals very tiny, obovate, about 0.25 mm. long and 0.125 mm. wide, rounded at apex, attenuate at base. H. H. Smith 1553, from Santa Marta, Colombia, identified as "Abuta prob. sp. nov. aff. Selloana" by A. C. Smith and as Hyperbaena domingensis by B. A. Krukoff, differs in having its sepals membranous, not dark-spotted, lighter at the margins, the outer ones lanceolate, about 1 mm. long and 0.5 mm. wide, obtuse at apex, truncate at base, sparsely strigose on the back and appearing ciliate along the margins, the inner ones broadly elliptic, about 2.25 mm. long and 1.25 mm. wide, rounded at apex, subacute at base, glabrous but minutely punctulate throughout; petals 6, membranous, obovate, not rhomboid, about 1.3 mm. long and 0.7 mm. wide, rounded at apex, gradually narrowed to the acute base, concave within, glabrous and minutely punctulate throughout; stamens 6, separate to the base, subequal, 1--1.25 mm. long, glabrous, incurved below the apex, slightly ampliate at apex; anthers small, but rather conspicuous, 2-celled, opening by longitudinal slits. Duss 3220, from Guadeloupe, cited by Diels, differs yet again in various details of floral characters from the South American specimens just described and has even smaller flowers. If all these collections actually represent the same species -- and in foliar characters they are indistinguishable -- then the

sheet of Poiteau s.n. from French Guiana, in the Kew herbarium, and Dusén 12,058 from Paraná, Brazil, and F. C. Hoehne pl. viv. 137 [Herb. Instit. Biol. S. Paulo 28,450], cultivated in the Jardim Botânico at São Paulo, Brazil, probably also belong here.

HYPERBAENA HASSLERI Diels.

Additional synonyms are Abuta parvifolia Rusby, in herb., and Hyperbaena ovalifolia (Mart.) Chod. & Hassler ex Malme, in herb. (sphalm.).

This species was known to Diels only from the type collection, Hassler 7299. Recent revisionary work in this group has brought to light two more Paraguayan collections, Hassler 12,223 and Malme 1038, and likewise H. H. Rusby 1400 from the pampas near Lake Rogagua, Bolivia, and Jørgensen 2061 from the Territorio de Chaco, Argentina. The Rusby collection (in fruit) was originally distributed as Abuta parvifolia and the Jørgensen collection (flowers and fruit) as Hyperbaena domingensis. Thus the range of this species is considerably extended and fruits are known for the first time. The fruits may be briefly described as follows: drupes oblong or slightly obovate, 1.3--1.6 mm. long, 6--7 mm. wide (when dry), the exocarp fleshy, black in drying, glabrous, nitid. It is worthy of note that the characters given by Diels in his key to the species of Hyperbaena (op. cit. p. 199) as distinguishing H. domingensis from H. Hassleri are just reversed. The line reading "Folia glabra" should lead to H. domingensis and the line reading "Folia subtus pilosa" should lead to H. Hassleri. It is also worthy of note that the inflorescences of H. Hassleri are not always 3.5--7 cm. in length and strongly resembling those of H. domingensis, as stated by Diels. In the specimens cited above the inflorescences range from 0.4 to 4 cm. in length and are not nearly as strong, complex, or elongate as those of H. domingensis, and yet very much larger and more conspicuous than those of H. oblongifolia.

HYPERBAENA OBLONGIFOLIA (Mart.) Chod. & Hassler.

An additional synonym is Abuta oblongifolia (Mart.) Miera, Ann. Mag. Nat. Hist. III, 14: 258. 1864.

This species was cited by Diels (op. cit. p. 202) only from Paraguay and Rio de Janeiro, Brazil. Recent revisionary work on the group has brought to light two more Paraguayan collections -- Fiebrig 5946 and 6403 -- and also a collection from Minas Geraes, Brazil -- Regnell III.1720. An emended description of the staminate flowers of this species, based on these new specimens, follows: sepals 6, membranous, slightly incrassate toward the center and base, not spotted, the outer 3 narrow-elliptic, 1.1--1.2 mm. long, 0.5--0.7 mm.

wide, acute or blunt at apex, blunt at base, rather sparsely villous-pubescent on the outside with long appressed yellowish hairs, the inner 3 broadly elliptic, 1.25--1.6 mm. long, 1--1.25 mm. wide, blunt or rounded at apex, subacute or rounded at base, very sparsely appressed-villous in the center (from base to apex) on the outside; petals 6, membranous, broadly elliptic or ovate-elliptic (or subobovate in outline when not spread out), 0.75--1.12 mm. long, 0.5--1 mm. wide, blunt or rounded at apex, acute at base, with two lobes below the middle, which are turned in and envelop the filaments, glabrous throughout; stamens 6, separate to the base, spreading, 0.75--0.875 mm. long, equal, glabrous; filaments slender, ampliate toward the apex or subgibbous, often curvate and humped at the apex; anthers large and prominent, swollen, 2-celled, plainly 2-lobed, opening by longitudinal slits.

HYPERBAENA SOLIMOESANA Moldenke, sp. nov.

Frutex scandens; ramis dense elongato-lenticellatis, minute puberulis vel glabratis; ramulis gracilibus striatis glabratis, lenticellis suberosis prominentibus, supra nodos saepe in panno elongato angustato velutino-tomentosis; petiolis gracilibus 1.1--7.1 cm. longis glabris, ad apicem curvatis incrassatisque; laminis firme chartaceis vel subcoriaceis ellipticis, 7--25 cm. longis, 3.4--10.4 cm. latis, ad apicem acuminatis, integris, ad basin obtusis vel acutis, utrinque glabris nitidisque.

Woody vine; branches medium-slender, densely lenticellate, minutely puberulent or glabrate, the lenticels elongate, abundant; branchlets and twigs slender, usually more or less longitudinally striate (when dry) and dark, with fewer, less elongate, corky-prominent lenticels, glabrous except for a patch of densely velutinous tomentum often borne in a narrow band between the petiole-base and the base of the next succeeding inflorescence; petioles slender, 1.1--7.1 cm. long, curved and thickened at the apex, glabrous; blades firmly chartaceous (a) or subcoriaceous, elliptic, 7--25 cm. long, 3.4--10.4 cm. wide, acuminate at apex, entire, obtuse or acute at base, glabrous and nitid on both surfaces, 5-ply-nerved, the 2 marginals and 2 laterals all issuing from the very base of the blade; midrib and laterals (not the marginals) flat or subimpressed above, very prominent beneath; vein and veinlet reticulation rather abundant, the ultimate portions mostly obscure above (except on very large basal leaves) and flat beneath, the larger portions prominent on both surfaces; inflorescence supra-axillary, solitary or 2--4 superposed, 2--8 cm. long, densely many-flowered; peduncle and rachis rather slender, but not filiform, glabrous except for velutinous-tomentose patches at the base of

each branch, the branches short and puberulent, several-flowered; pedicels obsolete or very short and puberulent; staminate flowers: sepals 6, imbricate, membranous, not spotted, the 3 outer ones narrow-elliptic, 1--1.5 mm. long, 0.37--0.5 mm. wide, subacute at apex, rounded-obtuse at base, rather densely and irregularly strigose throughout on the outer surface with appressed yellow hairs which project over the margins in ciliate fashion, the inner 3 broadly elliptic or elliptic-ovate, 1.7--1.9 mm. long, about 1.2 mm. wide, rounded at apex, abruptly acute at base, very densely tomentellous on both surfaces with short yellow hairs; petals 6, membranous, rhomboid-obovate, 0.6--0.7 mm. long and wide, sharply acute at apex, attenuate-acute at base, densely tomentellous on both surfaces from about the widest portion to the apex with spreading yellowish projecting hairs; stamens 6, separate to the base, about 0.75 mm. long, equal, free from the petals, hardly at all adherent at base, glabrous, ampliate at apex; anthers small, not conspicuously projecting nor swollen, 2-celled, opening by longitudinal slits, not prominently 2-lobed; drupes oblong-elliptic, 1.6--1.8 mm. long and 8--10 mm. wide (when dry), sessile, usually paired, glabrous, the exocarp fleshy, black in drying.

The type of this species was collected by Boris Alexander Krukoff (No. 8924) in a high forest on terra firma in the basin of the creek Belem, Municipality of São Paulo de Olivença, basin of Rio Solimões, Amazonas, Brazil, between October 26 and December 11, 1936, and is deposited in the Britton Herbarium at the New York Botanical Garden. The description of the fruit is taken from Krukoff 7279, collected on campinarana on the plateau between Rio Livramento and Rio Ipixuna, Municipality Humayta, basin of Rio Madeira, Amazonas, Brazil, between November 8 and 18, 1934, since this collection probably represents the same species. Gleason 827, described as a vine 20 feet long, collected in dense upland forest at Rockstone, British Guiana, between July 15 and August 1, 1921, probably represents an older basal branch of the same species, thus accounting for the much larger leaves. This collection was originally identified and distributed by H. A. Gleason as a species of Piper and later determined as "Abuta concolor P. & E. ?" by N. E. Brown.

H. solimoesana differs notably from all other known species of Hyperbaena in its flat or indistinct tertiary and veinlet reticulum and in the characters of its inflorescence. In its foliar and inflorescence characters, in fact, it closely resembles some species of Abuta, notably A. Selloana Eichl. It certainly differs pronouncedly from all other known species of Hyperbaena from central tropical South America. Its tomentose petals also seem to place it in a group apart from the rest of the genus.

LANTANA CORDOBENSIS Moldenke, nom. nov.

Tamonopsis spicata Griseb., Abh. K. Ges. Wiss. Götting. 19: 246. 1874 [not Lantana spicata Vell. Fl. Flum. 254. 1825].

LANTANA JUNELLIANA Moldenke, nom. nov.

Lippia lantanifolia var. crenata Griseb., Abh. K. Ges. Wiss. Götting. 19: 243. 1874.

LIPPIA GRISEBACHIANA Moldenke, nom. nov.

Lippia lantanifolia Griseb., Abh. K. Ges. Wiss. Götting. 19: 242. 1874 [not Lippia lantanifolia F. Müll. Fragm. 6: 151. 1868].

UNGULIPETALUM Moldenke, gen. nov.

Herbae scandentes. Radices elongatae tuberoso-incrassatae filipendulae (an parasitico-offensae?). Caules e basi erecta sursum volubiles tenues. Folia alterna longe petiolata, lamina membranacea vel termiter papyracea cordata vel aequaliterali-triangulari plinervia. Inflorescentiae cymosae, cymae parcae in paniculam compositae longe pedunculatae. Flores pedicellati dioeci. Flores ♂: sepala 9, 6 exteriora in seriebus duis disposita lanceolato-ovata extus subvillosa, 3 interiora multo majora lanceolato-ovata, parte basali non campanulato- vel tubuloso-conniventia, parte anteriore non reflexa. Petala 6 late elliptica bilobata, ad apicem retusa, ad basin valde unguiculata; lobis tumidis translucetibus, in parte ventrali confluentibus, in parte dorsali non confluentibus sed secus costam petali in carina dua parallela longitudinaliter elevatis, ad basin cordatis, glabris membranaceis. Stamina 6 usque ad mediam connata, parte libero filamentorum erecto incrassato glabro, ad apicem incurvato in connectivum non producto. Antherae subimmersae terminales biloculares, thecae oblongae, rimi longitudinali dehiscentes, in anthesin plerumque horizontaliter dispositae. Flores ♀: sepala 12, 9 exteriora conico-ovata imbricata extus subvillosa, 3 interiora multo majora ovata, parte basali non campanulato- vel tubuloso-conniventia, parte anteriore non reflexa. Petala 6 ovata vel hastato-sagittata incrassata, ad basin unguiculata glabra, lobis non tumidis. Staminodia nulla. Carpella 6-9. Ovarium gibboso-semiovatum dense villosum. Stylus teres subfiliformis elongatus, ad apicem uncinatus.

Scandent herbs; roots elongate, bearing several to many elongate thickened tubers, perhaps parasitic; stems erect at base, twining above, slender; leaves alternate, long-petiolate, the blades membranous or thin-papery, cordate or equalateral-triangular, pinnately-nerved; inflorescence cymose, axillary, the cymes few, disposed in long-pedunculate panicles;

flowers pedicellate, dioecious; male flowers: sepals 9, the 6 outer ones in two series of 3 each, lanceolate-ovate, subvillous outside, the 3 inner ones much larger, lanceolate-ovate, not campanulate- or tubular-connivent at the base, not reflexed at the apex; petals 6, broadly elliptic, bilobed, retuse at apex, conspicuously clawed at base, the lobes swollen, translucent, confluent on the ventral side, on the dorsal side the inner margins not confluent, but raised in the form of two parallel longitudinal keels along the midrib of the petal, cordate at base, glabrous, thin-membranous; stamens 6, firmly connate to about the middle, the free portion of the filaments erect, thick, glabrous, curved inwards at the apex, the connective not appendaged; anthers terminal, 2-celled, the thecae oblong, dehiscing by means of a longitudinal slit, usually borne horizontally during anthesis; female flowers: sepals 12, the 9 outer ones conic-ovate, imbricate, subvillous outside, the 3 inner ones much larger, ovate, not campanulate- or tubular-connivent at the base nor reflexed at the apex; petals 6, ovate or hastate-sagittate, incrassate, glabrous, clawed at the base, the two lobes not noticeably swollen or inflated or keeled; staminodes absent; carpels 6-9; ovary gibbous, half-ovate, asymmetric, densely villous; style terete, slender, elongate, hooked at the apex.

This genus, whose name is taken from two Latin words, ungula, a claw, and petalum, a petal, is thus far known only from a single species, a discussion of which follows below. It is probably a member either of the tribe Tinosporeae or the tribe Cocculeae of the family Menispermaceae. It seems to be most closely related to the genus Cocculus P. DC., from which it differs conspicuously in its tuberosous filipendulous roots, its staminate flowers having 6 outer stamens in two series of 3 each, inflated clawed and bilobed petals, and 6 connate stamens, and its pistillate flowers having 12 sepals, elongate uncinat styles, and densely villous ovaries. It also bears resemblances to the genus Odontocarya Miers, from which the same characters and the lanceolate-ovate shape of its sepals distinguish it.

UNGULIPETALUM FILIPENDULUM (Mart.) Moldenke, comb. nov.

Cocculus Filipendula Mart., Flora 24: Beibl. 2: 43. 1841.
Odontocarya filipendula (Mart.) Miers, Contrib. Bot. 3: 65. 1871.
Ohondodendron filipendulum (Mart.) Diels in Engl. Pflanzenreich 4⁹⁹: 81. 1910.

The type of this species, which is the type species of the genus, was collected by Maximilian Alexander Philipp, Prinz zu Wied-Neuwied, in woods at Cabo Frio, on September 8 (or a few days previously), 1815. According to Eichler in Mart. Fl. Bras. 13¹: 184 (1864) it was also collected in

southeastern Brazil by Sellow (No. 596) and by Luschnath. Eichler separates a variety from the species, to which, however, he does not assign a formal name. He states that the true species, represented by the Wied-Neuwied and Sellow specimens and perhaps a "Mart. Herb. Fl. Bras. 283", has petioles only 1--2 inches long, leaf-blades 1--2 1/2 inches long and 1--2 inches wide, and sparse pubescence throughout. The variety, on the other hand, represented by the Luschnath collection, has petioles 3--4 inches long, leaf-blades 4--5 inches long and wide, and denser pubescence throughout. Apparently all four of these collections were sterile, since no mention is made of floral or fruit characters either by Martius, Eichler, or Miers, or by Walpers in his *Repert.* 2: 748 (1843), where the species is discussed. Diels saw only pistillate flowers, obtained from the São Paulo portion of Glaziou 13,520. He cites, however, an unnumbered Schwacke collection also from Cabo Frio.

Perhaps Eichler's variety can be maintained, although not having seen any of the collections which he cites, I cannot commit myself now. The four sheets of Glaziou's collections before me, however, exhibit leaves with the blades varying from 2.9 cm. long and 2.5 cm. wide to 9.4 cm. long and 5.6 cm. wide and petioles from 0.8 to 3.1 cm. in length.

The species is said to be called "abuta miuda" by the natives and to be used medicinally as an antidote. Although the specific name was originally spelled with a capital initial letter it certainly has no connection with the genus Filipendula Tourn. and therefore does not need to be capitalized. Miers was the first to write it with a small initial letter, both under Cocculus and under Odontocarya, in *Contrib. Bot.* 3: 65 (1871).

The species is quite distinct in its vegetative and floral characters from all known members of the South American Menispermaceae. It has been carefully compared by B. A. Krukovff and myself during the course of our studies of the botanical ingredients of "curare" with the genera Sciadotenia Miers, Hyperbaena Miers, Somphoxylon Eichl., Abuta Barrère, Anomospermum Miers, Cissampelos L., Synandropus A. C. Smith, Chondodendron Ruiz & Pav., Cocculus P. DC., Odontocarya Miers, and the other new genus which will be proposed in our "curare" paper. The only genera of the list in which it could conceivably go are the last two and its floral and habitual differences from these two have been mentioned above. Martius, Walpers, Eichler, and Glaziou considered it to belong in the genus Cocculus, although Eichler placed it there with an interrogation-point, Miers thought it was an Odontocarya, and Diels regarded it as an anomalous Chondodendron. These three genera belong in three distinct tribes of the family, according to Diels' monograph in Engler, *Pflanzen-*

reich 4⁹⁴: 46--47 (1910), but it must be remembered that all of the earlier collections were apparently sterile and not even Diels saw flowers of both sexes. He says of it "*Quae stirps singularis a speciebus ceteris longius distat*".

Since an abundance of material of both staminate and pistillate flowers has been available to me, thanks to the kind courtesy of the curators of the Paris and Kew herbaria, I give herewith a detailed description of both types of flowers: staminate flowers: outer sepals 6, in two series of 3 each, lanceolate-ovate, the smaller ones about 0.5 mm. long and 0.125 mm. wide, the larger ones about 1.25 mm. long and 0.5 mm. wide, irregularly long-pubescent on the outer surface with subvillous multicellular brownish hairs; inner sepals 3, lanceolate-ovate, thin-textured, 2.2--2.5 mm. long, 0.8--1 mm. wide, acute at the apex and base, densely short-puberulent with more or less glandular or capitate hairs on the outer surface; petals 6, broadly elliptic, retuse at the apex, conspicuously clawed at the base (the claw heavy, firm, and dark and extending as a heavy, firm, and dark midrib to the apex of the petal, but rapidly diminishing as the apex is approached), with 2 inflated translucent lobes or wings on either side, which are confluent on the ventral surface and broadly cordate at the base, the inner margins not confluent dorsally, but raised in the form of two parallel longitudinal keels or crests, glabrous throughout; stamens 6, connate for about half their length into a dark firm cylindrical or obconic glabrous structure 0.5--0.8 mm. long, the free portion of the filaments stoutish, erect, 0.5--0.8 mm. long, dark, incurved at the apex; anthers oblong, terminal, 2-celled, dehiscing by longitudinal slits, borne almost horizontally during anthesis by the curving of the filament apex, the connective not prolonged or appendaged; pistillate flowers: outer sepals 9, conic-ovate, 0.75--1.5 mm. long, 0.2--0.6 mm. wide, acute at the apex, truncate at the base, densely long-pubescent on the outer surface with subvillous multicellular brownish hairs; inner sepals 3, ovate, 3--3.1 mm. long, 1.9--2 mm. wide, acute at the apex, rounded at the base, densely short-puberulent on the outer surface with more or less glandular capitate hairs; petals 6, ovate or hastate-sagittate, thickened, 1.1--1.2 mm. long, about 1 mm. wide, acute at the apex, the two wings with their basal lobes patent, glabrous and dark throughout, the claw broadened at the apex, the wings not noticeably inflated; pistils 6--9 per flower; ovary gibbous, semi-ovate, asymmetric, flattened on adjacent surfaces, 0.7--0.8 mm. long, densely long-villous; style terete, slender or subfiliform, 1.3--1.5 mm. long, glabrous, uncinatate at the apex. The flowers are described by Glaziou as being reddish-brown in color, blooming in November and December.

The Glaziou 18,129, cited by Diels, is certainly not conspecific with the other Glaziou collections which he cites. Its inflorescences are still very immature, but careful examination indicates that it probably represents a species of Disciphania Eichl.

Citations: Four specimens have been examined. BRAZIL: Rio de Janeiro: Glaziou 8563 (K, P); São Paulo: Glaziou 13,520, in part [O, São Vicente] (K). CULTIVATED: Brazil: Rio de Janeiro: Glaziou 13,520, in part [O⁷, São Christovão] (P).

XYLOSTEON CANADENSE Duham.

In Rev. Sudam. Bot. 5: 3 (1937) I published a superfluous binomial, Xylosteon album (L.) Moldenke. This binomial was published on the assumption that Asa Gray [Syn. Fl. 2¹: 201. 1878] and Britton & Brown [Ill. Fl., ed. 1, 3: 241 (1898), ed. 2, 3: 281 (1917 & 1936)] were correct in their reduction of Vaccinium album L. [Sp. Pl., ed. 1, 350. 1753] to Lonicera canadensis Marsh. [Arb. 81. 1785], of which Lonicera ciliata Muhl. [Cat. 23. 1813] is a synonym. Actually, according to Blake in Rhodora 16: 118 (1914), they were in error in making this reduction. Examination of the type in the Linnean herbarium by Blake reveals that it is a species of Symphoricarpos, which Blake calls Symphoricarpos albus (L.) Blake. Druce [Rep. Bot. Exch. Club 1913, 35: 420. 1914] apparently also failed to consult the Linnean type when he proposed the binomial Lonicera alba (L.) Druce for what had hitherto been known as L. canadensis, and likewise ignored the earlier Lonicera alba of Linnaeus, which is a synonym of Chiococca alba (L.) A. S. Hitchc. If the genus Xylosteon is to be maintained, as is done by Rafinesque, Howell, Röhling, Michaux, Decaisne, Eaton, Buchanan-Hamilton, Dumort de Courset, Goldie, Bonpland, Ruprecht, Richards, Moench, Fischer, Maximowicz, Pursh, Loddiges, Webb, Fuss, and Small, to mention just a few, then it seems that the name Xylosteon canadense Duham. is the proper one for the species in question. Unfortunately, the last edition of the International Rules invalidates all binomials published in Duhamel's work (1755). The binomial, however, occurs frequently in literature, accredited to Duhamel [e.g., P. DC. Prodr. 4: 337. 1830; Steud. Nom. Bot., ed. 2, 2: 793. 1840; Jacks. Ind. Kew. 2: 1241. 1895]. Probably a valid publication of this binomial could be found among the various effective publications, if diligent search were made.

(a) The term "chartaceous" in previous publications of mine was mis-used in the sense of "thin-membranous" and the term "membranous" was mis-used in the sense of "chartaceous". In

the present contributions and in all future publications, a special effort will be made to use these two terms in their proper and more correct sense.

TWO NEW SPECIES OF *PLENCKIA* (a)

C. L. Lundell

PLENCKIA INTEGERRIMA Lundell, sp. nov.

Arbor parva, 3--4 m. alta, 20 cm. diam. Folia alterna, integerrima, parva, subchartacea, rufo-punctata, breviter petiolata, cuneato-oblongata, 1.5--3.3 cm. longa, 5--11 mm. lata, apice rotundata, inconspicue emarginata. Cymae axillares. Flores parvi, virides. Pedicelli 4--5 mm. longi, glabri. Calyx profunde quinquefidus, lobis minute erose-ciliolatis, ca. 0.6 mm. longis. Petala 5, ovata, 1.5--2 mm. longa, 1.2--1.4 mm. lata, minute erose-ciliolata. Stamina 5, demum patentia. Ovarium in discum subimmersum, biloculare, loculis biovulatis, rarius triovulatis. Fructus samaroides.

A small tree, 3 or 4 m. high, 20 cm. in diameter; branchlets usually slender, elongated, sometimes abortive and spine-like, striate, pulverulent. Leaves alternate, small, glabrous or slightly pulverulent, subchartaceous, punctate-variegated at first, concolorous and faintly variegated with age. Petioles 1.5 mm. long or less, subcanaliculate. Leaf-blades cuneate-oblongate, usually 2.5 to 3.3 cm. long, sometimes only 1.5 cm. long, 5 to 11 mm. wide, apex rounded, usually slightly emarginate, costa raised above as a fine narrow ridge, nearly obsolete below except at base, veins obsolete or nearly so, margin entire, slightly revolute. Cymes axillary, less than 1 cm. long, much reduced, usually 2- or 3-flowered. Flowers green. Pedicels slender, usually 4 to 5 mm. long, sometimes shorter, glabrous, jointed above the base. Calyx deeply 5-lobed, apparently glandular-puberulent, the lobes 0.6 mm. long or less, rounded, minutely erose-ciliate. Petals 5, ovate, 1.5 to 2 mm. long, 1.2 to 1.4 mm. wide, apex broadly rounded, patent, margin minutely erose-ciliate. Stamens 5, patent at anthesis; filaments subulate, 0.6 mm. long or less, inserted on lower edge of disk; anthers basally attached. Disk thick, pentagonal, confluent with ovary. Ovary 2-celled, with 2 or 3 erect ovules in each cell, about two-thirds submerged in disk, the free part slightly compressed laterally, 2-angled, tapering into the very short style. Stigma minutely bifid. Very young immature fruits samaroid, with a terminal wing, punctate-